

# *Physical Activity Recommendations*

## For People with Type 2 Diabetes



Regular physical activity is a key part of diabetes self-management. Studies show that the risk of mortality among people with diabetes is inversely related to fitness level.<sup>1</sup> The new guidelines of the American Diabetes Association and American College of Sports Medicine *Exercise and Type 2 Diabetes Recommendations (2010)* states that it is now well-established that physical activity improves blood glucose control and can prevent or delay Type 2 diabetes mellitus, along with positively affecting lipids, blood pressure, cardiovascular events, mortality, and quality of life by reducing symptoms of depression.

A health care professional exercise prescription and clear directions for physical activity can help increase awareness and motivate individuals to engage in regular physical activity. To help individuals begin and sustain regular physical activity, encourage the selection of activities that reflect their goals, desires, and the availability of appropriate support.<sup>2</sup> Medical assessment is needed to determine appropriate, individualized physical activity. The following are guidelines to help patients set individual goals.

### **EVERY visit, perform the three A's—Ask, Assess, and Act:**

**Ask:** “What kind, how often and how much physical activity do you do?”

**Assess:**

- Current health status, daily schedule, glucose control, medications, diet, feet, and co-morbidities (e.g. arthritis, heart disease, high blood pressure)
- Support system
  - Family and friend support?
  - Transportation needed?
  - Safe environment?
- Real or perceived reasons for doing or not doing physical activity
- Problem-solve and discuss how to safely meet goals

**Act - FIT:** Discuss the following:

- **Frequency (How often?):** Be active 4–7 days of the week<sup>2</sup>
  - No more than 2 days between periods of aerobic activity<sup>3</sup>
- **Intensity (How hard?):** People should perform *moderate intensity* exercise

- The “*Talk Test*” is an easy way to determine intensity of physical activity:
- **Light intensity:** Able to sing while exercising
  - **Moderate intensity:** Able to comfortably carry on a conversation while exercising
  - **Vigorous intensity:** Not able to carry on a conversation while exercising
- **Time (How long?):** At least 150 minutes per week (i.e. 30 minutes per day)
    - May be divided into three 10-minute sessions per day

## **1. Basic Principals of Physical Activity**

- **Start slowly:**
  - Begin with 10–15 minutes
  - Work up to at least 30 minutes
  - Set time goals, not distance goals
  - Give the body time to warm-up and cool-down (begin and end at a lower intensity)
- **Do:**
  - Include flexibility and joint range of motion exercises
  - Select low-impact activities to avoid excessive force on the joints
- **Avoid:**
  - Overstretching
  - Activity that will cause increased joint pain lasting more than an 1-2 hours, though some post-exercise soft tissue discomfort may be expected
- **Evaluate and, if needed, refer to a:**
  - Podiatrist for biomechanical correction with orthotics
  - Physical Therapist for specific recommendations

## **2. Special Considerations:**

- **Weight Management:** Physical activity, when combined with reduced calorie intake, is more effective than either alone in achieving moderate weight reduction.
- **Hypoglycemia, Prevention:** Hypoglycemia may occur in patients taking insulin. Recommend that during and after physical activity:
  - Have a source of rapidly acting carbohydrate available to treat hypoglycemia (i.e. glucose tablets totaling 15 grams)
  - Before or after exercise: For every one hour of exercise, consume an additional 15 grams of carbohydrates.<sup>4</sup>
  - Drink adequate fluids
- **Hyperglycemia:** Avoid exercise when blood glucose is too high.<sup>4</sup>
- **Dehydration, Prevention:** To minimize risk of heat illness:
  - Drink plenty of water
  - Exercise during the cool part of the day
  - Wear loose-fitting clothing
- **Foot Injury, Prevention:** People with diabetes are more vulnerable to loss of protective sensation in the feet, poor circulation, and impaired healing of foot ulcers.
  - Wear comfortable shoes designed for activity and socks
  - Check inside shoes to ensure lining is smooth and no objects are inside prior to wearing

- Never walk barefoot or wear uncomfortable shoes, sandals, etc.
- Check each foot for sores or injury every day, and before and after activity

**Arthritis, Considerations and Recommendations:** Of California adults with diabetes, 40% *also* have arthritis. Arthritis may be an unrecognized barrier for adults with diabetes attempting to manage their condition through physical activity. Individuals with diabetes and arthritis have unique physical activity concerns about aggravating arthritis pain and causing further joint damage, and uncertainty about which types and amounts of activity are safe for their joints. People with arthritis not only *can* exercise, but are *encouraged* to exercise. Regular, moderate, physical activity for people with arthritis is safe, improves function, and reduces pain. Communicating the benefits of physical activity to patients with diabetes *and* arthritis is essential to improving overall diabetes self-management.

▪ **Recommend:**

- Low-impact activities such as, walking, swimming, water exercise, and biking
- Adequate warm-up, cool-down, and flexibility and joint range of motion activities
- Gradual increase in duration and intensity
- Alternate exercise types and methods to accommodate for changes in arthritis symptoms
- Evidence-based, community physical activity programs such as the Arthritis Foundation Walk with Ease, Exercise, and Aquatics Programs.
- Evidence-based, community self-management program such as Chronic Disease Self-Management Program and the Arthritis Foundation Self-Help Program. Available in both English and Spanish.

**Sources Cited:**

<sup>1</sup> Morrato E.H. et al. (2006). Are Health Care Professionals Advising Patients With Diabetes or At Risk for Developing Diabetes to Exercise More? *Diabetes Care* 29(3), 543-548. Available at <http://care.diabetesjournals.org/content/29/3/543.full.pdf>

<sup>2</sup> American College of Sports Medicine. (2003). Exercise Management for Persons with Chronic Diseases and Disabilities. *Human Kinetics*. Champaign, IL.

<sup>3</sup> American College of Sports Medicine and the American Diabetes Association Joint Position Statement on Exercise and Type 2 Diabetes: [http://journals.lww.com/acsmmsse/Fulltext/2010/12000/Exercise\\_and\\_Type\\_2\\_Diabetes\\_American\\_College\\_of.18.aspx?WT.mc\\_id=HPxADx20100319xMP](http://journals.lww.com/acsmmsse/Fulltext/2010/12000/Exercise_and_Type_2_Diabetes_American_College_of.18.aspx?WT.mc_id=HPxADx20100319xMP)

<sup>4</sup> Exercise is Medicine. Your Prescription for Health Series – Exercising with Type 2 Diabetes. Available at: [http://exerciseismedicine.org/documents/YPH\\_DiabetesType2.pdf](http://exerciseismedicine.org/documents/YPH_DiabetesType2.pdf)

**Physical Activity Guidelines, Resources, and Special Considerations**

- American College of Sports Medicine and the American Diabetes Association Joint Position Statement on Exercise and Type 2 Diabetes: [http://journals.lww.com/acsmmsse/Fulltext/2010/12000/Exercise\\_and\\_Type\\_2\\_Diabetes\\_American\\_College\\_of.18.aspx?WT.mc\\_id=HPxADx20100319xMP](http://journals.lww.com/acsmmsse/Fulltext/2010/12000/Exercise_and_Type_2_Diabetes_American_College_of.18.aspx?WT.mc_id=HPxADx20100319xMP)
- American College of Sports Medicine and the American Medical Association - Exercise is Medicine: [www.exerciseismedicine.org/physicians.htm](http://www.exerciseismedicine.org/physicians.htm)

- *National Institute on Aging: Exercise & Physical Activity: Your Everyday Guide*  
PDF and FREE hard copies available at: [www.nia.nih.gov/HealthInformation/Publications/ExerciseGuide/](http://www.nia.nih.gov/HealthInformation/Publications/ExerciseGuide/)
- *National Institute Diabetes and Digestive and Kidney Disease: Walking*  
<http://win.niddk.nih.gov/publications/walking.htm>
- *International Council on Activity Aging: Identify appropriate fitness facilities and exercise professionals*  
[www.icaa.cc/FacilityLocator/icaapftguide.pdf](http://www.icaa.cc/FacilityLocator/icaapftguide.pdf) [www.icaa.cc/FacilityLocator/facilitylocator.asp](http://www.icaa.cc/FacilityLocator/facilitylocator.asp)
- *Centers for Disease Control and Prevention: “Talk Test”*  
[www.cdc.gov/nccdphp/dnpa/physical/measuring/talk\\_test.htm](http://www.cdc.gov/nccdphp/dnpa/physical/measuring/talk_test.htm)
- *US Department of Health Services: Foot Screening and Patient Education*  
[www.hrsa.gov/leap/](http://www.hrsa.gov/leap/)
- *Arthritis Foundation Programs: [www.arthritis.org](http://www.arthritis.org)*  
Walk with Ease: [www.arthritis.org/walk-with-ease.php](http://www.arthritis.org/walk-with-ease.php)  
Exercise: [www.arthritis.org/af-exercise-program.php](http://www.arthritis.org/af-exercise-program.php)  
Aquatics: [www.arthritis.org/aquatic-program.php](http://www.arthritis.org/aquatic-program.php)  
Self-Help: [www.arthritis.org/self-help-program.php](http://www.arthritis.org/self-help-program.php)
- *California Department of Public Health: California Arthritis Partnership Program*  
[www.cdph.ca.gov/arthritis](http://www.cdph.ca.gov/arthritis)
- *Centers for Disease Control and Prevention: Arthritis*  
[www.cdc.gov/arthritis/](http://www.cdc.gov/arthritis/)  
[www.cdc.gov/nccdphp/publications/AAG/pdf/arthritis.pdf](http://www.cdc.gov/nccdphp/publications/AAG/pdf/arthritis.pdf)  
[www.cdc.gov/arthritis/data\\_statistics/comorbidities.htm](http://www.cdc.gov/arthritis/data_statistics/comorbidities.htm)
- *Centers for Disease Control and Prevention: Physical Activity*  
[www.cdc.gov/diabetes/consumer/beactive.htm](http://www.cdc.gov/diabetes/consumer/beactive.htm)